FINAL KY FACE #KY9405101

Date: 8 June 1994

Subject: Demolition Foreman Dies After 35-Foot Fall Through Hole in Flat Roof

SUMMARY

A 51-year-old male demolition foreman (the victim) died from head injuries sustained when he fell through a hole in a flat roof to a concrete floor. At about 3:25 pm the victim was on the roof to retrieve a four by eight sheet of 3/4" plywood to be used at another location on the plant site. After moving the plywood, partially exposing the hole, the victim fell 35 feet to a concrete floor. There were no witnesses to the fall. He was found by the site supervisor approximately one-half hour later. Emergency medical personnel were called. Co-workers at the scene checked for pulse and respiration and noted none. The coroner pronounced the victim dead at the scene. The victim died instantaneously from a skull fracture and other internal injuries. The Kentucky FACE investigator concluded that, to prevent similar occurrences, employers should:

- Cover temporary roof openings and secure area where hazards are known to exist. (Implement 29 CFR 1926.500 (b) (8)).
- Instruct employees in the recognition and avoidance of hazards associated with falls and the use of safety belts and lifelines.
- Assign safety responsibilities to a competent individual and conduct scheduled and unscheduled work site safety inspections.

INTRODUCTION

On May 31, 1994, a 51-year-old male demolition foreman died from head injuries sustained after he fell 35 feet through a hole in a roof to a concrete floor. The Kentucky FACE investigator read of the incident in the newspaper on June 2, 1994. On June 7, one week following the incident, the Kentucky FACE investigator traveled to the site. The site supervisor, three co-workers and the county coroner were interviewed. Photographs and measurements were taken at the site. The photos taken by the coroner were reviewed. The company president was interviewed by phone at a later date.

The site, a gasohol manufacturing facility, had ceased operations four years prior to the incident. It was being dismantled by a demolition company for re-assembly in another state. Preparations were being made to use the site for a chicken processing plant. The demolition was being completed by a contractor from a town one and one-half hours' drive away.

The employer is a demolition contractor primarily involved in dismantling and removal of steel structures. The company employs 40-45 people based on workload. One foreman (the victim) and three workers had been at this site since November 1993.

The company president is the designated safety person. Documentation of some MSHA courses was available. Training frequency is not known. Fall prevention was not a documented safety course. According to safety records, a harness was required when working on open scaffolding. Such a device was not used by

the victim. 4One previous fatality was a suicide, according to the company president.

INVESTIGATION

A demolition crew had been hired to dismantle and move several large tanks, pieces of equipment and small buildings. The purpose was to remove all equipment used in the manufacture of gasohol. The victim was the foreman of a four-man crew at the site. He had worked for the company for 15 years. He had one previous injury on the job in May 1991, when a piece of material blew into his right eye. Morning crew meetings included reminders of safe work practices. It was required at the site to wear hard hats and safety shoes. Co-workers reported the victim also used gloves for almost all procedures.

As part of the dismantling process, a 40-foot high, 30-foot wide, round stainless steel tank was being cut into sections for transport and re-assembly at another site. The tank was located outside the main structure. This process included cutting the tank from its foundations about 6 inches from the ground. To facilitate this, a 4 x 8 sheet of 3/4-inch plywood was used to rest equipment and provide a platform for the person doing the work. The foreman, recognizing a need for a second sheet of plywood, informed the workers he knew where a piece was and left the area to get it.

At about 3:20 pm the victim went inside the main structure, approximately 60 feet away, climbed four flights of stairs and then out onto the flat roof of the metal building. He walked about 20 feet to a 3/4" 4 x 8 sheet of painted plywood with a rope in his hand. He did not carry a hammer or other tools. He had no safety harness. There were no tie-off points or guard rail around the plywood. He moved the plywood, revealing an opening in the roof measuring 44" x 78". The victim fell through the opening, landing on the concrete 35 feet below.

Some time after 4:00 pm, the site supervisor, driving a tow motor, entered the building and noticed the victim lying on the ground. He checked the victim and yelled to the three co-workers, then went to a phone to call the rescue squad. The co-workers ran into the building and checked for pulse and respiration. None were noted. EMS was notified at 4:25 pm and dispatched at 4:28 pm. They arrived on the scene at 4:34 pm. The coroner was then notified. He pronounced the victim dead at the scene and estimated time of death at 3:25 pm. An autopsy was done.

CAUSE OF DEATH

The medical examiner's report listed the cause of death as injuries due to fractures of skull, sternum, ribs and extremities due to fall from height.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Temporary roof openings should be covered and secured to prevent inadvertent movement. As well, guard rails should be installed to prevent accidental displacement of the temporary cover.

Discussion #1: In this case the hole was created to allow a crane to lower a cable down through the roof. The crane was then used to lift a large piece of equipment so that rollers could be inserted under it for transport out of the building. The victim was at the site and participated in this task. At the completion of the task, a piece of 48" x 96" plywood was laid over the 44" x 78" opening. It was not secured with nails or screws. This opening should have had some form of guarding against removal of the plywood. Railings around the perimeter would have given tie-off opportunities. 29 CFR 1926.500(b)(8).

Recommendation #2: Employees should be instructed in the recognition, avoidance and applicable regulations concerning the hazards associated with falls.

Discussion #2: In this case training on the hazards associated with fall prevention was not documented. Although some training programs were routinely offered, a structured, organized series of safety program offerings was not evident. Training, even with long-term employees, should focus on a variety of hazards including personal protective equipment (PPE), fall prevention, first aid, and safe work practices. Training in the recognition and avoidance of unsafe work conditions may have prevented this incident.

Recommendation #3: Employers should assign safety responsibilities to a competent1 full-time safety professional.

Discussion #3: In this case safety responsibilities were a part of the company president's duties. Training, monitoring, and evaluation of safety training, should be assigned to a person who can dedicate a major portion of his work toward safety training, program development and evaluation. Conducting worksite safety inspections might have identified this area as a hazard and corrective actions might have been initiated.

1Competent person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are hazardous or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.

REFERENCES

29 CFR 1926.500 (b) (8) Code of Federal Regulations, Washington D.C.: U.S. Government Printing Office, Office of the Federal Register.